

## **REMARKS**

This is a full and timely response to the outstanding Office Action mailed September 16, 2005. Upon entry of the amendments in this response, claims 1 – 4, 6 – 9, 11 – 22, 38 – 40, 42 – 51 and 53 - 62 remain pending, with claims 24 – 30 having been withdrawn, and claims 56 – 61 having been both withdrawn and amended. In particular, Applicant has amended claims 1 – 4, 6, 8, 22, 32 – 35, 38 – 40, 51, 53, 54 and 62, and has added claims 63 - 66. Additionally, Applicant has canceled claims 5, 10, 23, 36, 37, 41 and 52 without prejudice, waiver, or disclaimer. Applicant has canceled claims 5, 10, 23, 36, 37, 41 and 52 merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application. Applicant reserves the right to pursue the subject matter of these canceled claims in a continuing application, if Applicant so chooses, and does not intend to dedicate the canceled subject matter to the public. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

## **Examination Materials**

The Office Action indicates that several documents are required for proper examination. In this regard, Applicant submits herewith the requested documents for review.

## **Election/Restriction Requirement**

The Office Action indicates that claims 24 – 30 and 55 – 61 are withdrawn from further consideration pursuant to 37 C.F.R 1.142(b). Additionally, the Office Action indicates that claims 3 – 5 and 34, claims 7 and 38, and claims 10 and 41 are withdrawn as being drawn to a non-elected Species. With respect to the withdrawal of claims 5, 10 and 41, Applicant has canceled these claims and respectfully asserts that the issue of withdrawal as to

these claims has been rendered moot. With respect to claims 3, 4, 7 and 38, however, Applicant respectfully traverses.

In this regard, the Office previously required Applicant to select among various Species of the invention<sup>1</sup> in order to accommodate search and examination. Applicant complied with that requirement. However, the Office Action improperly indicates that withdrawal of subject matter not related to the restriction requirement is necessitated. That is, Applicant elected a Species (set forth in FIG. 19 of the application) that included liquefying a material by a particular form of heating, specifically, a plasma torch. The aspects of claims 3, 7 and 38 do not involve heating. This, however, does not mean that these claims are subject to withdrawal. Stated simply, these claims relate to features that are not depicted in FIG. 19 because the features are independent of the subject matter of the particular type of heating shown in FIG. 19. Since the features of these claims are still capable of reading on the Species of FIG. 19 (i.e., the features of FIG. 19 are not depicted to the exclusion of the features of these claims), Applicant respectfully asserts that withdrawal of these claims is not proper.

Regardless, Applicant has amended the independent claims from which claims 3, 4, 7 and 38 depend, thus rendering the subject of restriction moot. In particular, these independent claims are generic, thereby permitting inclusion of dependent claims without restriction.

### **Rejections Under 35 U.S.C. §112, First Paragraph**

The Office Action indicates that claims 22, 23, 31, 39, 53, 54 and 62 are rejected under 35 U.S.C. 112, first paragraph. With respect to claim 23, Applicant has canceled this claim and respectfully asserts that rejection as to this claim has been rendered moot. With respect to claims 22, 31, 39, 53, 54 and 62, Applicant respectfully traverses. In particular,

Applicant has amended these claims and respectfully asserts that the rejection has been accommodated.

**Rejections Under 35 U.S.C. §112, Second Paragraph**

The Office Action indicates that claims 22, 23, 31, 39, 53, 54 and 62 are rejected under 35 U.S.C. 112, second paragraph. With respect to claim 23, Applicant has canceled this claim and respectfully asserts that rejection as to this claim has been rendered moot. With respect to claims 22, 31, 39, 53, 54 and 62, Applicant respectfully traverses. In particular, Applicant has amended these claims and respectfully asserts that the rejection has been accommodated.

**Rejections Under 35 U.S.C. §102**

The Office Action indicates that claims 1, 2, 6, 8, 9, 11 – 18, 20, 21, 32, 33, 35 – 37, 40, 42 – 49, 51 and 52 are rejected under 35 U.S.C. 102 as being anticipated by *Roberts*. With respect to claims 36, 37 and 52, Applicant has canceled these claims and respectfully asserts that the rejection as to these claims has been rendered moot. With respect to the remaining claims, Applicant respectfully traverses the rejections.

With respect to *Roberts*, *Roberts* teaches two systems of interest as depicted in FIGs. 3 and 4 therein. In this regard, FIG. 3 of *Roberts* discloses a system in which melt is gravity fed to a platform, which is rotated. When the acceleration forces on the melt are sufficient to overcome surface tension forces, the melt is broken into particles that are flung off the platform. In the distinct embodiment of FIG. 4 of *Roberts*, melt is gravity fed between streams of gas that separate the melt into particles. Notably, there is no teaching or suggestion in *Roberts* to combine the aforementioned embodiments as appears to have been

done in the Office Action. For this reason alone, the pending rejection appears to be improper and should be removed.

Regardless of the propriety of the rejection, Applicant has amended claim 1 to recite:

1. An atomizer system comprising:
  - a melt material to be atomized;
  - a containment portion for securing the melt material;
  - a unit which accelerates the melt material such that the melt material experiences an acceleration force higher than Earth's standard gravitational force; and
  - atomizing fluid that flows across an exposed surface of the melt material;

*wherein the containment portion and the unit which accelerates the melt material are operative to prevent the melt material from being ejected from the containment portion due to the acceleration force; and*

*wherein, while the melt material is experiencing the acceleration force, liquid droplets of the melt material become entrained in the atomizing fluid flowing across the exposed surface of the material such that at least some of the liquid droplets aerosolize and are ejected from the containment portion.*

(Emphasis added).

Applicant respectfully asserts that *Roberts* is legally deficient for the purpose of anticipating claim 1. In particular, Applicant respectfully asserts that *Roberts* does not teach or otherwise disclose at least the features/limitations emphasized above in claim 1. Specifically, even if properly applied, *Roberts* does not teach or otherwise disclose “wherein the containment portion and the unit which accelerates the melt material are operative to prevent the melt material from being ejected from the containment portion due to the acceleration force.” That is, in the embodiment of FIG. 3, acceleration forces cause the melt to be ejected from the containment portion and, in the embodiment of FIG. 4, there are no acceleration forces that exceed that of gravity. Additionally, *Roberts* does not teach or otherwise disclose “wherein, while the melt material is experiencing the acceleration force, liquid droplets of the melt material become entrained in the atomizing fluid flowing across the exposed surface of the material such that at least some of the liquid droplets aerosolize and are ejected from the containment portion.” That is, in the embodiment of FIG. 3, the

liquid droplets do not become entrained in the atomizing fluid (particularly because there is no atomizing fluid as recited in claim 1) and, in the embodiment of FIG. 4, there are no acceleration forces. Therefore, Applicant respectfully asserts that claim 1 is in condition for allowance.

Since claims 2 – 4, 6 – 9, 11 – 18 and 20 - 22, are dependent claims that incorporate all the features/limitations of claim 1, Applicant respectfully asserts that these claims also are in condition for allowance. Additionally, these claims recite other features/limitations that can serve as an independent basis for patentability. Furthermore, claims 24 - 30, also are dependent claims that incorporate all the features/limitations of claim 1, although these claims are presently withdrawn. Thus, upon allowance of claim 1, Applicant respectfully requests that these claims be reinstated and placed in condition for allowance.

With respect to claim 32, Applicant has amended that claim to recite:

32. A method of atomizing a material comprising the steps of:  
accelerating the material to be atomized;  
*flowing an atomizing fluid across an exposed surface of the material while the material is experiencing an acceleration force higher than Earth's standard gravitational force;* and  
*while the material is experiencing the acceleration force, entraining liquid droplets of the material in the atomizing fluid flowing across the exposed surface of the material such that the liquid droplets aerosolize and create fine particulates.*

(Emphasis added).

Applicant respectfully asserts that *Roberts* is legally deficient for the purpose of anticipating claim 32. In particular, Applicant respectfully asserts that *Roberts* does not teach or otherwise disclose at least the features/limitations emphasized above in claim 32. Specifically, even if applied, *Roberts* does not teach or otherwise disclose “flowing an atomizing fluid across an exposed surface of the material while the material is experiencing an acceleration force higher than Earth's standard gravitational force” and “while the material is experiencing the acceleration force, entraining liquid droplets of the material in the

atomizing fluid flowing across the exposed surface of the material such that the liquid droplets aerosolize and create fine particulates that are not contained by the containment portion.” Therefore, Applicant respectfully asserts that claim 32 is in condition for allowance.

Since claims 35, 38 – 40, 42 – 49, 51 and 53 - 62, are dependent claims that incorporate all the features/limitations of claim 32, Applicant respectfully asserts that these claims also are in condition for allowance. Additionally, these claims recite other features/limitations that can serve as an independent basis for patentability. Furthermore, claims 56 - 61, also are dependent claims that incorporate all the features/limitations of claim 32, although these claims are presently withdrawn. Thus, upon allowance of claim 32, Applicant respectfully requests that these claims be reinstated and placed in condition for allowance.

### **Rejections Under 35 U.S.C. §103**

The Office Action indicates that claims 19 and 50 are rejected under 35 U.S.C. 103 as being unpatentable over *Roberts* in view of *Slaughter*. Applicant respectfully traverses the rejections. In particular, claims 19 and 50 are dependent claims that incorporate all the features/limitations of claims 1 and 32 respectively. Since *Slaughter* does not teach or reasonably suggest the limitations above that have been shown to be lacking in *Roberts*, Applicant respectfully asserts that the combination of *Roberts* and *Slaughter* is likewise deficient for rendering the claims unpatentable. Therefore, Applicant respectfully asserts that these claims are in condition for allowance.

**Newly Added Claims**

In this response, Applicant has added claims 63 – 66. No new matter has been added.

Since claims 63 - 66 are dependent claims that incorporate all the features/limitations of either claim 1 or claim 32, Applicant respectfully asserts that these claims are in condition for allowance. Additionally, these claims recite other features/limitations that can serve as an independent basis for patentability.

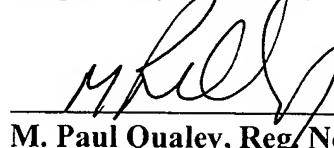
**Cited Art Made of Record**

The cited art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

## CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on 12/17/05.

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Signature